

## CLAIMS

What is claimed is:

1. A method for manufacturing a plurality of items, said items comprising more than one

sub-item, in serial, said method comprising;

5 manufacturing a plurality of items each item comprising more than one sub-item in serial  
over a period of time;

selecting a sample of manufactured items from the serial production process;

isolating said sub-item from said sample of manufactured items.

identifying a quality of the selected sub-item ; and

10 if said quality is determined to be satisfactory, then subjecting a remainder of said  
manufactured items produced in serial to further processing.

2. A method according to claim 1 wherein the plurality of the items to be manufactured in  
serial are wafers composed of more than one chips.

3. A method according to claim 2 wherein said wafers have from 400 to 6400 arrays.

15 4. A method according to claim 3 wherein the chips are comprised of biological material.

5. A method according to claim 4 wherein the biological material is selected from the group  
consisting of DNA, RNA, amino acids or analogs thereof.

6. A method according to claim 2 wherein said further processing is cutting the wafers into  
20 chips.

7. A method of manufacturing wafers comprising a plurality of arrays of nucleic acids, said  
method comprising

fabricating in serial a plurality of duplicate wafers, said wafers comprising nucleic acid  
arrays;

25 selecting at random at least one of said wafers;

isolating one or more of said nucleic acid arrays from said wafers;  
performing a test on at least one of said arrays which identifies a particular quality of the array; and  
if said array passes said testing step by meeting the quality, further processing a remainder of said of wafers.

- 5 8. The method of claim 7 wherein said wafers are manufactured by light directed synthesis.
9. The method of claim 7 wherein said wafers are manufactured by nucleic acid spotting.
10. The method of claim 7 wherein said step of further processing a remainder of wafers, comprising cutting said wafers into chips and inserting said chips into cartridges.
- 10 11. The method of claim 7 wherein said wafers are made by inkjet synthesis.
12. The method of claim 7 further comprising:  
performing a second test which identifies a second property of said chip on at least one of said plurality of chips other than said first chips tested, and  
if said at least one of said chips fails said second test, discarding said wafers.
- 15 13. The method of claim 12 further comprising:  
performing a third test which identifies a third property of said chip on at least one of said plurality of chips other than said first and second chips tested, and  
if said at least one of said chips fails said third test, discarding said wafers.